

16x16 HDMI1.4 Matrix

Support 4K@30Hz, EDID

OPERATION MANUAL

4K2K



Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

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1. INTRODUCTION

The 16x16 4k HDMI Matrix supports any of the sixteen Input HDMI Channels to be routed to any of the sixteen Output HDMI Channels (resolutions up to 4K2K@30Hz.) Reading and saving EDID Function from HDMI Displays is available. The matrix Support control mode as follows: front panel buttons、RS232、RS485、WIFI(Optional)、PC software and remote control.

2. APPLICATIONS

- Video/TV wall display and control
- Security surveillance and control
- Commercial advertising, display and control
- University lecture hall, display and control
- Retail sales and demonstration

3. PACKAGE CONTENTS

- 1x HDMI Matrix
- 1x IR Remote Control
- 1x Power Cord
- 1x Serial Port Line
- 1x CD for control Software & User manual

4. SYSTEM REQUIREMENTS

- HDMI source equipment such as PC with HDMI port,
- HDMI receiving equipment such as HDTV and HDMI monitors,
- Premium HDMI cable, RS232 cable and Cat5e/6 Cable.

5. FEATURES

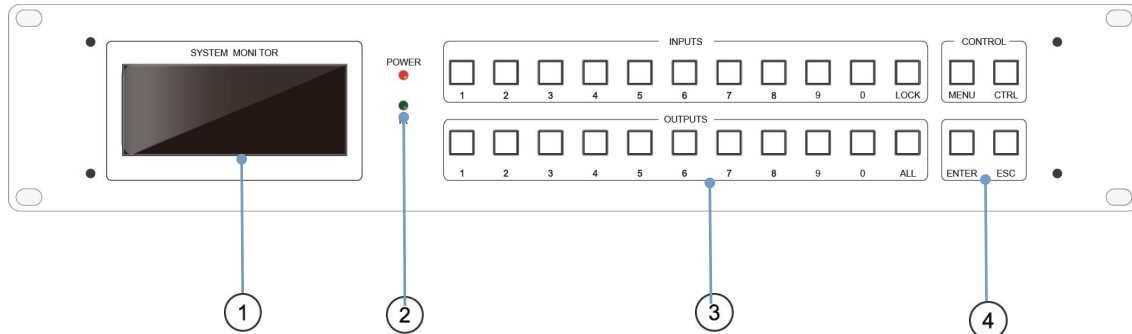
- HDMI 1.4 compliant
- Allows up to sixteen HDMI audio/video devices to be independently switched to sixteen HDMI monitors, HDTV or projectors
- The sixteen output channels could show the same or different source simultaneously
- Reading and saving EDID function from displays
- Support high definition resolution including: 3840x2160p@24/25/30Hz, 1080p@60Hz, 1080i, 720p and other standard video formats
- Switching modes: Front panel buttons、RS232、RS485、IR、PC software control、WIFI (Option)

6. SPECIFACATIONS

Specification	Parameter
Input	Interface : Type - A - type HDMI Female Minimum Level : 0.5Vp - p Maximum Level : 1.0Vp - p Differential Impedance : 100Ω Return Loss : - 30db@5MHz
	Interface : HDMI A - type(19 pin) Female Input Level : 0.7Vp - p Differential Impedance : 100Ω Return Loss : - 30db@5MHz DC Compensation : 5mV(Max)
Signal Type	HDMI1.4 specification HDMI - A all - digital T.M.D.S.
Protocol	Support HDMI1.4 Protocol , compatible with DVI1.0 Protocol
Bandwidth	340MHz
Video Format Supported	3840 x 2160P/1080P/1080i/720P/576P/480P/576i/480i
Serial interface	RS232, 9 - pin female D - type connector, Ports 2, 3 and 5 are directly connected, Serial port parameters: 9600bps, 8 - bit data, 1 start bit, 1 stop bit
Control Method	Panel Button、RS232、Remote Controller、PC software control
Power Supply	ACIN 176V - 264V
Power Consumption	30 ~ 50W
Operation Temperature	0°C ~ 45°C
Relative Humidity	10%—90%
ESD Protection	Human - body Model: ±8kV(Air - gap discharge)/±4kV(Contact discharge)

7. OPERATION CONTROLS AND FUNCTIONS

7.1 Front Panel



- ① **LCD Screen:** Display the current status of Input & Output
- ② **IR WINDOW:** Accepts IR signals from the included IR remote for control of this unit only.

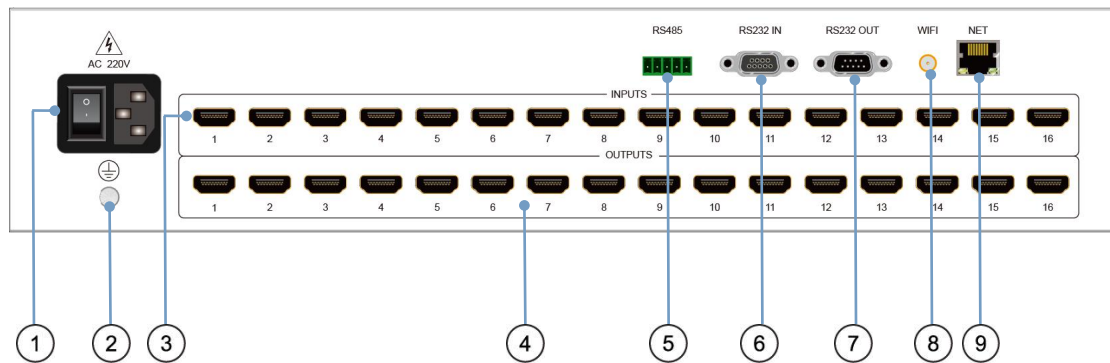
③ **OUTPUT 1~16 & INPUT 1~16:** Press output buttons (1~16) to select output source; then press input buttons to select input source (1~16). and then press “Enter” to confirm. “Lock” Button is disable. “All” Button is for selecting all Input & Output sources

- ④ **CONTROL BUTTON:** MENU、CTRL、ENTER、ESC

When you press “MENU” button , it will show five sub-menu on LCD screen:

- **Plan Management:** To save & open the switching scheme. Press 1 to select the sub-menu. Press 1 to select the save plan, enter the program number (input area button), press the ENTER key to confirm. Press 2 to open the saved program, enter the saved program number (Input area button), press the ENTER key to confirm.
- **EQ&SW Setting:** No need to setting up for it only used in adjustment
- **FAN & Buzzer Setting:** No need to setting up for it only used in adjustment
- **System Setting:** Press 4 to select the sub-menu. Press 0 to enter the factory settings interface. Choose the LCD display off time: 1: 10s; 2: 20s; 3: 30s; 4: 40s; 5: 50s; 6: 60s . Press the ENTER key to confirm.
- **Communication:** Press 5 to enter the sub-menu, Select the 2 key on the input field to enter the baud rate setting interface. It is best to keep the baud rate as default factory settings data without any change. IP Address is not available, so hardware is needed. (The function is not needed when setting or reserving ID Code mode, Nor does single matrix, while it is needed in multil matrix splicing control.)

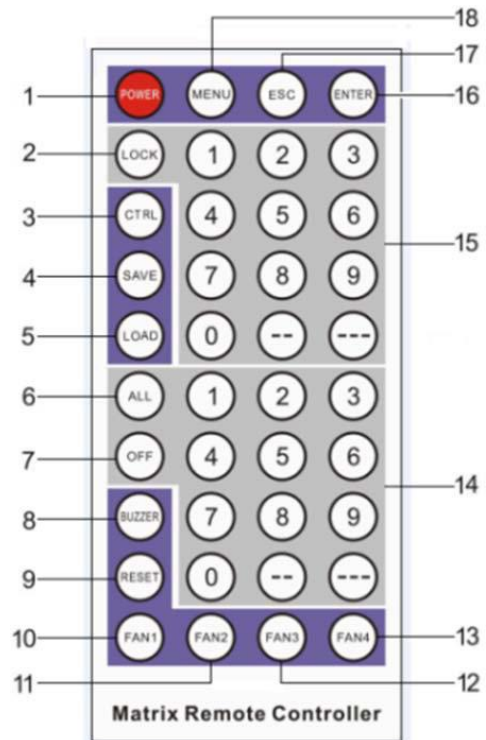
7.2 Rear Panel



- ① Power: Turns on/off the device
- ② Ground: Connect to the Ground
- ③ Input Channel: Connect to the source
- ④ Output Channel: Connect to the sink
- ⑤ RS485: RS485 port to control the matrix
- ⑥ RS232 - IN : Female(Connected to the computer, control the matrix)
- ⑦ RS232 - OUT : Male
- ⑧ Wi - Fi: The function is reserved and needs to be matched.
- ⑨ RJ45 Port : Connected the computer to control matrix

7.3 Remote Control

1. POWER: Turns on/off the display Screen
2. LOCK: Disable
3. CTRL: Disable
4. SAVE: Save current Matrix Plan
5. LOAD: Calling set Matrix Plan
6. ALL: Select all the Outputs to be configured simultaneously with same setting
7. OFF: Disable
8. BUZZER: Disable
9. RESET: Factory Reset
10. FAN1: Disable
11. FAN2: Disable
12. FAN3: Disable
13. FAN4: Disable
14. OUTPUT: Selecting the numbered output port to be configured
15. INPUT: Selecting the numbered input port to be configured
16. ENTER: Confirm your operation
17. ESC: Cancel the last operation
18. MENU: The menu key contains 5 sub-menus



7.4 Serial Control Protocol

- **RS - 485 Communication Port**

RS485 interface line order from left to right for RS485A(+), RS485B(-), GND

- **RS - 232 Communication Port and Connection Method**

There are two serial ports: RS - 232 - in and RS - 232 - out, Input port connect with PC and output port with other devices. The matrix can cascade with multiple devices.

- **Matrix is Compatible with Below Protocols:**

protocol	Example	
*IXOY(!	*I01O02(!	1 input>>2 output
XVY.	01V02.	1 input>>2 output
*Y<X!	*02<01!	1 input>>2 output
X*Y!	01*02!	1 input>>2 output
X*Y%	01*02%	1 input>>2 output
<X,Y,V>	<1,2,V>	1 input>>2 output
XVY%	01V02%	1 input>>2 output
X,Y,V	1,2,V	1 input>>2 output

7.5 EDID Operation

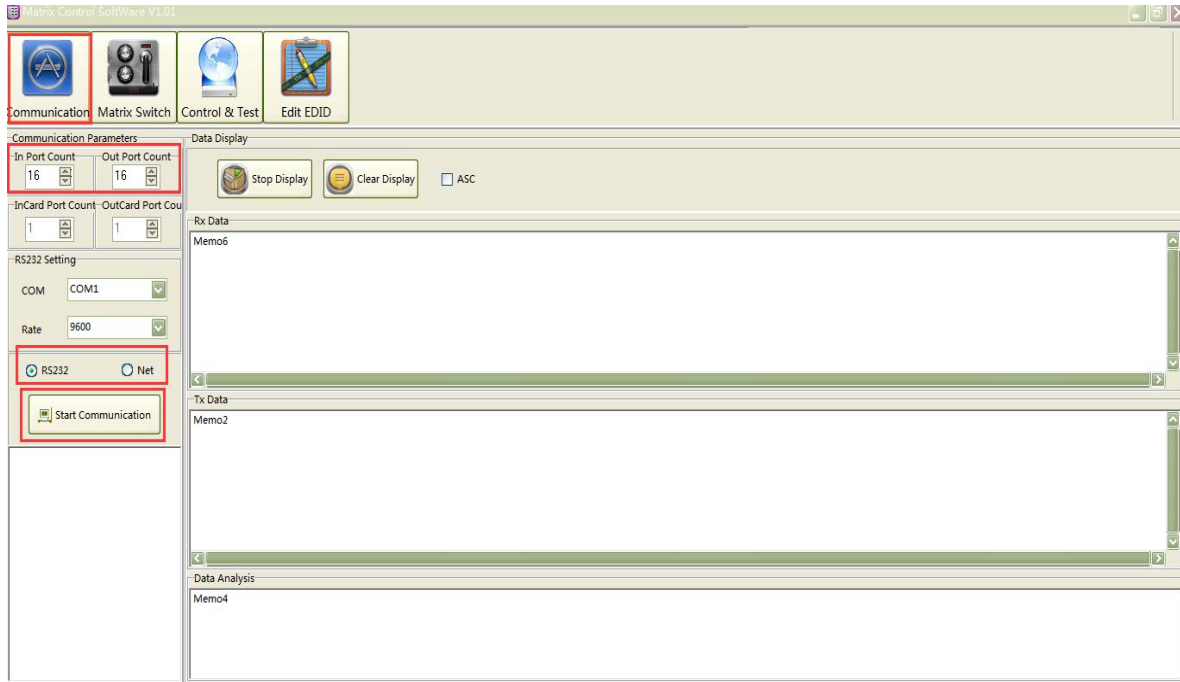
The matrix has two ways to read the EDID. The factory default setting is automatically reading mode.

- **Automatically EDID Reading.**
- **Manually EDID Reading:** Press CTRL key for a long time to enter the CTRL EDID mode

7.6 Software Control

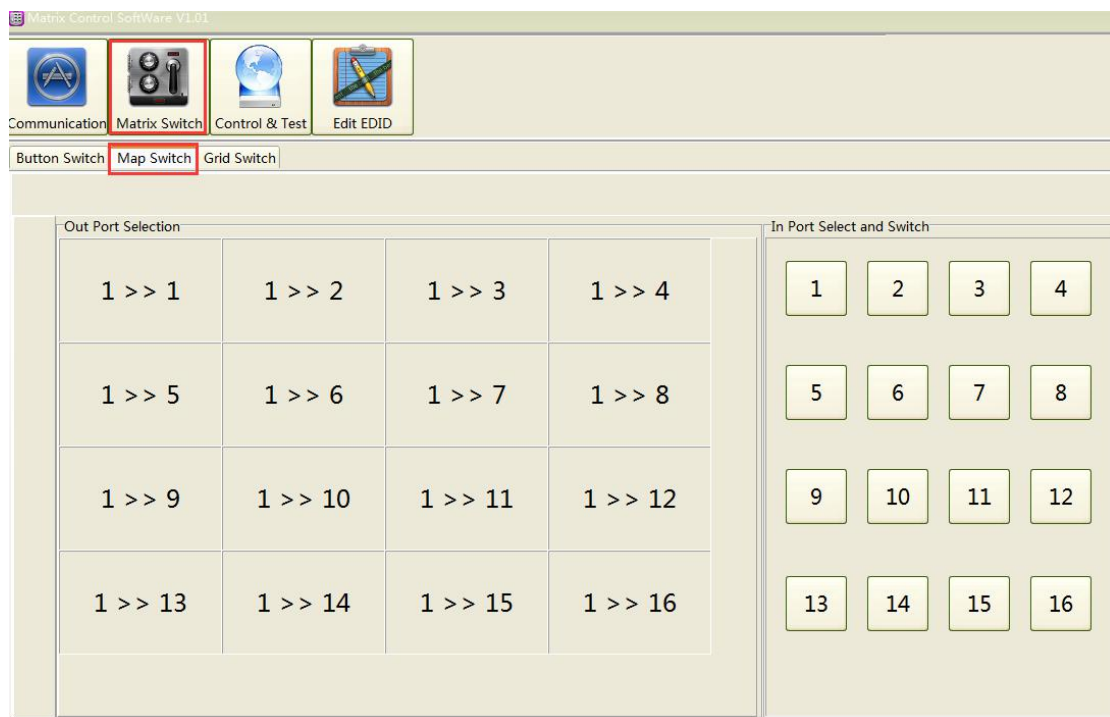
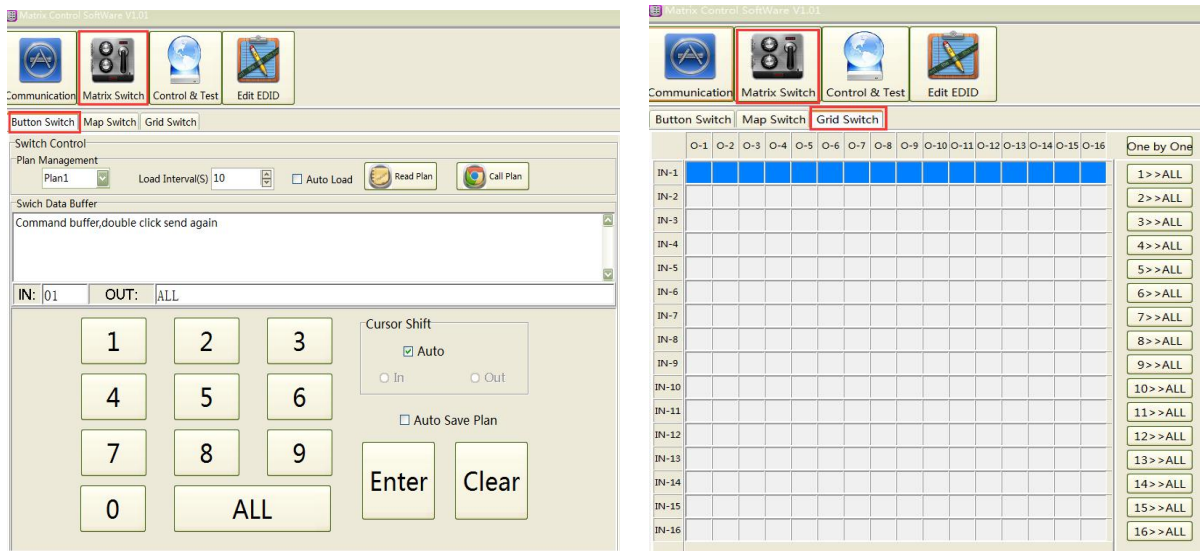
Connect the 16x16 Matrix to PC with a RS232 cable or RJ45 cable, open the software on your PC. And then click “Communication” → Choose “In Port & Out Port” to be sixteen → “RS232” or “Net” → “Start communication”

PS: when connected by “Net”, Please make sure the matrix and your PC to be same LAN with the IP Address.



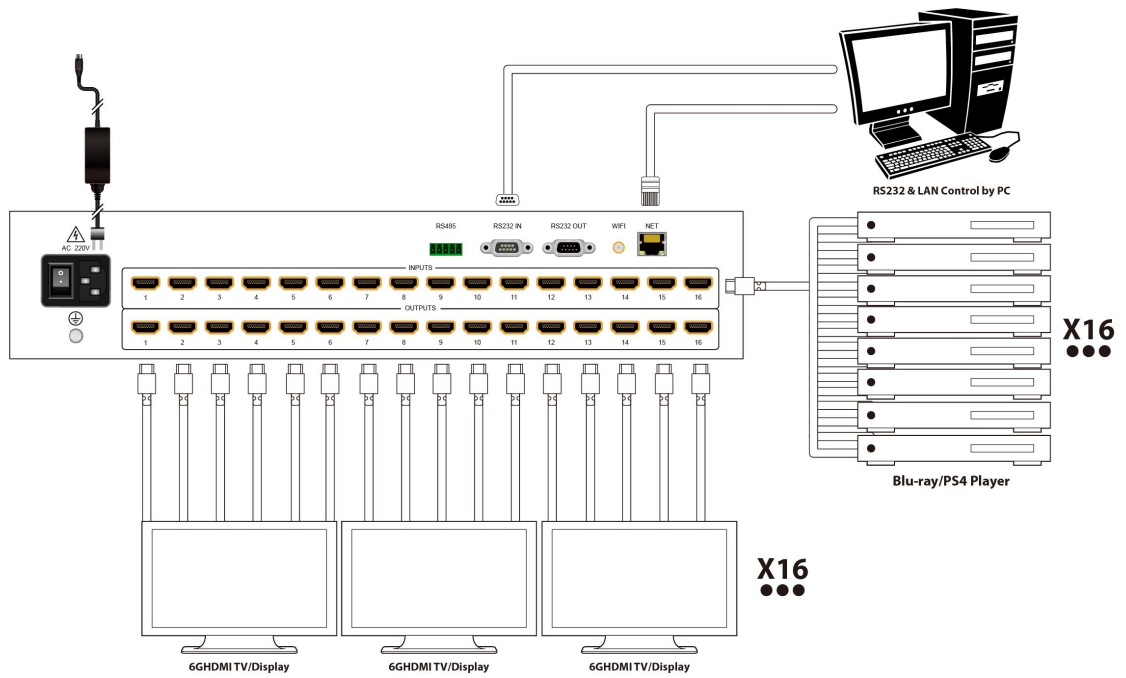
Pic1

And then click "Matrix Switch". You could control it with three ways "Button Switch", "Map Switch" and "Grid Switch". See below pictures:



Pic2

8. CONNECTION DIAGRAM



10. MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

11. PRODUCT SERVICE

(1) **Damage requiring service:**

The unit should be serviced by qualified service personnel if:

- The DC power supply cord or AC adaptor has been damaged;
- Objects or liquids have gotten into the unit;
- The unit has been exposed to rain;
- The unit does not operate normally or exhibits a marked change in performance;
- The unit has been dropped or the cabinet damaged.

(2) **Servicing Personal:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized service personal.

(3) **Replacement parts:** Please ensure the defective parts to be replaced by manufacturers or the same specifications as the original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

(4) **Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

12. WARRANTY: Limited Warranty Limits and Exclusions

- If your product does not work properly because of defective materials or workmanship, our Company (referred to as "the warranter") will, for the length of the period indicated as below, **(Parts(2)Year, Labor(90) Days)** which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision whether to repair or replace the product will be made by the warranter.
- During the "Labor" Limited Warranty period there will be no charge for labor.
- During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period.(Please prepaid and insured for the unit and then ensure it was packed carefully in the original carton. Besides, detailed complaint description and your contact information should be attached in it.)This Limited Warranty is only valid for the original purchaser and only covers the newly purchased product. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.
- This Limited Warranty ONLY COVERS failures result from defective materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.
- The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damages that caused by acts of God.
- THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (for example, it excludes damages for lost time, cost of someone remove or re-install an installed unit that was applicable, round trips, loss of or damage to media or images, data or other recorded content. Please note that the items listed above are not exclusive, but only for illustration)
- THE PURCHASER OR USERS SHOULD TAKE RESPONSIBILITY FOR PARTS AND SERVICE THAT DOES NOT COVERED IN THIS LIMITED WARRANTY .